A grim tally of “years of life lost” shows that substance abuse, suicides and diabetes drove a rise in premature deaths in nearly half the country, according to researchers who mapped variations in death rates among people 20 to 55 years old.

The research offers a detailed look at the trends pulling down life expectancy among young and middle-aged Americans in recent years. So-called “deaths of despair,” including drug overdoses, have been on the rise, especially among white Americans, according to recent studies.

The new analysis, published Tuesday in the Journal of the American Medical Association, shows wide variation in where people ages 20 to 55 are at highest risk, and in what diseases or conditions afflict them. The risk of dying young declined in Minnesota, California and New York between 1990 and 2016, the study found. Yet it rose in 21 states, including West Virginia and New Mexico.

“We get this very divergent pattern in that middle-age area,” said Christopher J.L. Murray, director of the Institute for Health Metrics and Evaluation at the University of Washington, who led the analysis. “We’re seeing how different it is by state.”

The examination of health by U.S. state between 1990 and 2016 is part of IHME’s ongoing Global Burden of Disease epidemiological study, which assesses illnesses and death from major diseases and conditions globally using multiple data sources.

While the two leading causes of death for Americans of all ages nationwide—heart disease and lung cancer—remained the same for those years, “years of life lost” for several others soared, reflecting the ills of young and middle-aged adults. That
calculation involves multiplying the number of deaths at each age by a standard life expectancy at that age, according to IHME.

Substance use, mental-health issues, cirrhosis and diabetes accounted for most of the increases in premature death among people ages 20 to 55, Dr. Murray said. That shows a lack of progress in fighting obesity and addressing mental-health problems, he said. However, medical advances have helped curb premature deaths from certain types of cancer and other causes.

Death rates went down for several cancers—including breast, colon and lung cancers—as prevention and treatment have improved, as well as for motor-vehicle crashes, the result of more safety features in cars and certain changes in traffic laws, health experts said.

Hawaii had the highest life expectancy at birth in 2016, at 81.3 years, while Mississippi had the lowest, at 74.7 years, the study found.

For Americans between ages 20 and 55, the risk or probability of death over the years studied rose more than 10% in five states: West Virginia, Oklahoma, New Mexico, Kentucky and Wyoming.

Mental and substance-use disorders were the biggest driver of an increase in probability of death for young and middle-aged adults in West Virginia, one of the states hardest hit by the opioid epidemic. Suicide also played a big role. The increases in mortality were so large they didn’t offset declines in deaths from cardiovascular disease, accidents such as car crashes, HIV and tuberculosis. In Oklahoma, those same factors, along with cirrhosis, were significant contributors to an increase in risk of death.

In Minnesota, on the other hand—the state with the lowest probability of death for this age group in 2016—a decrease in deaths from cardiovascular diseases, cancer, injuries, and HIV far offset an increase in deaths from mental and substance-use disorders. New York and California also benefited from declines in deaths from suicide, cardiovascular disease, cancer, HIV and tuberculosis, offsetting increases in drug deaths.

Federal drug-overdose death data also show how much the opioid epidemic alone has caused death rates in states to diverge.

The latest study by IHME shows how health disparities “leave the United States far from being united,” according to an accompanying editorial by Howard Koh of the Harvard T.H. Chan School of Public Health and Anand Parekh of the Bipartisan Policy
Center, both former officials in the U.S. Department of Health and Human Services. They called for more prevention efforts to combat these conditions.

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